

What is claimed is:

[c1] A method for manufacturing an EUV lithography element, comprising:

sagging a plate of a glass material to produce a blank; and

polishing a top face of the blank to produce a finished lithography element.

[c2] The method of claim 1, wherein the glass material is made by flame hydrolysis.

[c3] The method of claim 1, wherein the glass material comprises an ultra low expansion glass material.

[c4] The method of claim 3, wherein the ultra low expansion glass material has a coefficient of thermal expansion of no more than about 30 parts per billion per degree Celsius in a temperature range of 5 to 35 degrees Celsius.

[c5] A method for manufacturing a EUV lithography element, comprising:

grinding a top face of a piece of a glass material;

sagging a plate of the glass material over the top face of the piece to produce a blank; and

polishing a top face of the blank to produce a finished lithography element.

[c6] The method of claim 5, wherein the glass material is made by flame hydrolysis.

[c7] The method of claim 5, wherein the glass material comprises an ultra low expansion glass material.

[c8] The method of claim 5, wherein the ultra low expansion glass material has a coefficient of thermal expansion of no more than about 30 parts per billion per degree Celcius in a temperature range of 5 to 35 degrees Celcius.

[c9] A method for manufacturing a mirror, comprising:

sagging a plate of a glass material to produce a mirror blank; and

polishing a top face of the mirror blank to produce a finished mirror.

- [c10] The method of claim 9, wherein the glass material is made by flame hydrolysis.
- [c11] The method of claim 9, wherein the glass material comprises an ultra low expansion glass material.
- [c12] The method of claim 11, wherein the ultra low expansion glass material has a coefficient of thermal expansion of no more than about 30 parts per billion per degree Celsius in a temperature range of 5 to 35 degrees Celsius.
- [c13] A method for manufacturing a mirror, comprising:
  - grinding a top face of a piece of a glass material;
  - sagging a plate of the glass material over the top face of the piece to produce a mirror blank; and
  - polishing a top face of the mirror blank to produce a finished mirror.
- [c14] The method of claim 13, wherein the glass material is made by flame hydrolysis.
- [c15] The method of claim 13, wherein the glass material comprises an ultra low expansion glass material.
- [c16] The method of claim 13, wherein the ultra low expansion glass material has a coefficient of thermal expansion of no more than about 30 parts per billion per degree Celcius in a temperature range of 5 to 35 degrees Celcius.